

DOCUMENT RESUME

ED 255 201

IR 011 573

TITLE Videotex and Cable TV.
INSTITUTION Department of External Affairs, Ottawa (Ontario).
PUB DATE [83]
NOTE 45p.; For related documents, see IR 011 574-576.
Color graphics may not reproduce well.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Cable Television; *Computer Graphics; *Computer Software; Diagrams; Display Systems; Foreign Countries; *Microcomputers; Production Techniques; Standards; *Videotex
IDENTIFIERS *Canada; Telidon System

ABSTRACT

One of 10 in a series on videotex, this promotional brochure discusses the enhancement of cable service systems that use videotex and teletext technologies. It explains the advantages of Canada's approach to videotex, which uses the standard called NAPLPS (North American Presentation Level Protocol Syntax), otherwise known in Canada as Telidon. NAPLPS-Telidon is a method of electronically coding graphic information that can be used when creating, storing, or transmitting any image in a digital format. Advantages listed include its flexibility and sophistication, forward and backward compatibility, low cost, current availability, and capacity to replace traditional character generators. An overview of ways to improve cable service covers graphic enhancements using page creation and cycling equipment or using a microcomputer and creating sets of format pages. Also discussed is teletext, which involves transmitting cycles of pages, but equipping subscribers with their own decoders to allow them to choose the pages they wish to see at any time. (LMM)

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VIDEOTEX AND CABLE TV



You're a cable system operator, and you're thinking towards the future.

You know the potential of cable. You know you run the only communications network that rivals the telephone company on the local level. You have commitments to the community that licensed you, to your subscribers, and to your shareholders.

Perhaps you think it's time to move in the direction of videotex or teletext. Perhaps a newspaper in your community is showing interest in a joint-venture cable magazine. Perhaps your local city council is requesting you to begin providing two-way services.

Or perhaps you just want to improve your service to your customers.

If you've been investigating enhanced cable services, you've probably already discovered that Canada, the most cabled country in the world, has been developing some very interesting technologies. This brochure will tell you about them.

So read on. You'll find out about enhancements to your system that can cost you only a few thousand dollars, but which will be concrete steps along a real growth path towards full videotex and teletext. You'll also learn why Canada's consistent, standards-based approach is the wisest way to work.

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POISE YOURSELF FOR THE FUTURE



Videotex and teletext are coming. Full commercial systems are running in South Florida, in Southern California (from mid-1984, and in Canada. Networks like CBS are involved, and big newspaper chains like Times Mirror and Knight Ridder. So far, most of the videotex action has been based on the telephone network, but your cable system is the best alternative delivery system for home electronic information, entertainment and transactional services.

Be ready to compete, by starting off on the path now. Used enhanced services to attract new revenues, and to meet your community responsibilities. And be ready for the future . . .

A Common Standard

A SINGLE, ELEGANT STANDARD

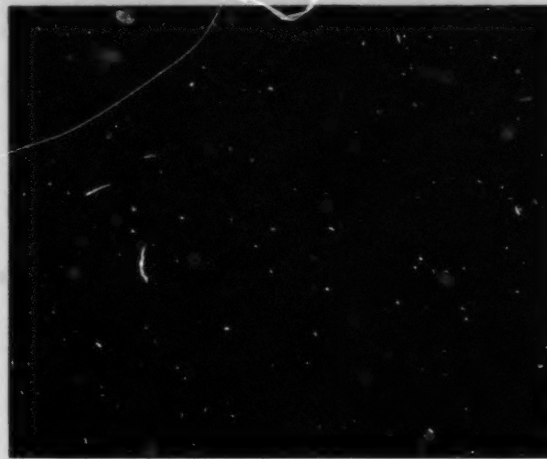
Wherever you travel in North America, your electric shaver works. Standardization of electric current, at 60 cycles and 110 volts, is so universal that it's hard to believe there was ever a time when it wasn't.

Similarly, a standard has emerged for the handling of graphic information by computers and related equipment. This standard is called NAPLPS - the North American Presentation Level Protocol Syntax. NAPLPS is known in Canada as Telidon, first proposed in the 1970s as a way of encoding videotex databases. Telidon and NAPLPS are identical.

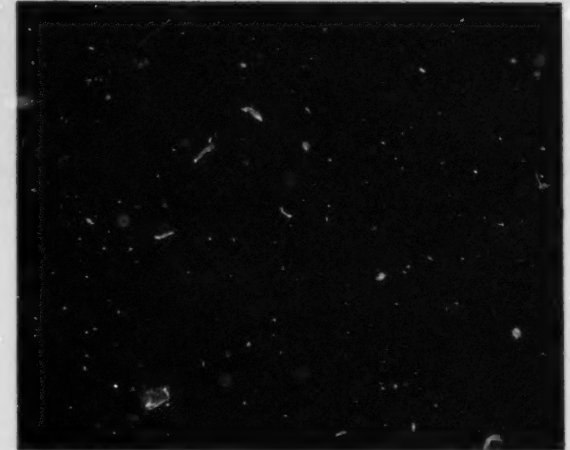
Telidon - NAPLPS has been accepted by the big players in the videotex field - companies like AT&T, CBS, Sony, IBM and Honeywell. In a few years, there won't be any serious videotex operations in the U.S. that don't use the NAPLPS standard.

But NAPLPS isn't just a standard that's useful in videotex or teletext. NAPLPS is a particular way of electronically coding graphic information. It's an agreement that, for example, everyone will use the same code to mean "blue", and the same set of codes for describing lines, curves, and shapes for graphic presentation. So NAPLPS can be used any time you're going to create, store, or transmit any image in a digital format.



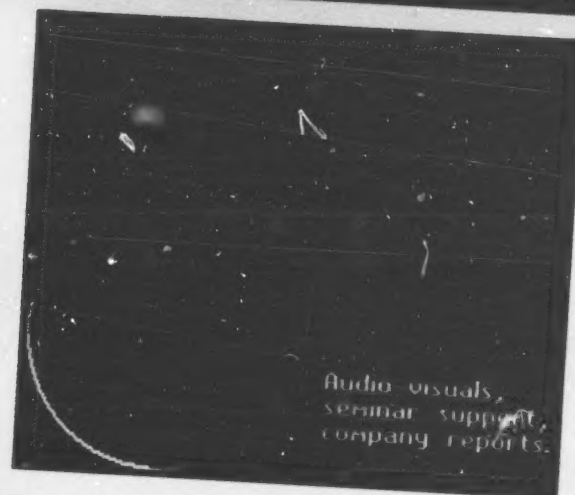


NAPLPS is very flexible and sophisticated. It allows an almost unlimited range of colours to be expressed, and the resolution of NAPLPS pictures can be defined as finely as desired. NAPLPS is a compact code, which makes very efficient use of computer storage and communication lines.





The NAPLPS code is forward and backward compatible. Consequently, images coded using NAPLPS today will be displayable by any NAPLPS device in the future, no matter how much the technology improves. Conversely, if a NAPLPS image is created in the future, taking advantage, say, of greater screen resolution than is common today, the image will still be able to be displayed by a NAPLPS device dating back



to today. It's similar to colour and black-and-white TV, where today's devices show yesterday's programs, and vice versa, even as the technology has improved greatly.

Anyone planning to get into any computer-generated or computer-manipulated graphics should insist that the graphics are encoded using the NAPLPS standard. Canadians invented the NAPLPS standard, and have more experience using it than anyone else.

Join us now for a quick overview of some of the ways you can enhance your cable service.

Compatibility

Televised
programming
signals are
received by

both color and
monochrome sets

BEST COPY AVAILABLE

STAGE 1

Getting Off the Ground



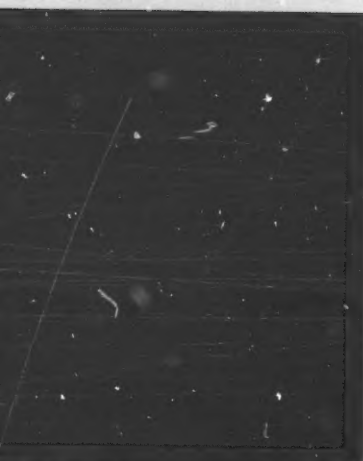
GETTING INTO VIDEOTEX

If you want to take a run at this field with a minimum of investment, consider graphic enhancements to your community information channels, using NAPLPS page creation and cycling equipment. Think of this process as creating an electronic slide show to send out over a cable channel. Each slide is one screen's worth of information. The slides are usually called "pages", a term borrowed from videotex.

THE CREATOR

First, you need a computer to create the images. The most common way is with a page-creation system, which is produced by a number of companies. Norpak, Cablespace, and others are companies which

A typical page-creation system consists of a computer, a keyboard, and a monitor. The monitor is sensitive to a special pen. The screens presents a variety of information are available: color, text, graphics, and figures, functions, and so on. The image, and so on. The other screen shows the state of the picture. The picture is created by making a drawing on the screen, then touching the special pen. On the color screen, the keyboard. On the other screen, another instruction. The digital representation of a page can take a few minutes, and can be made even faster. 35mm slide process



a way to create the graphic
% common way of doing this is
tion device. Such devices are
umber of manufacturers.
are and Formic are among the
a provide page-creation systems.
e-creation system is, deep down
er. It has two screens, a
flat gridded area that is
pecial wired pen. One of the
a menu of the functions that
our choices, type of geometric
like rotation and translation of
storage or retrieval of images.
in colour, presents the current
ure being created. A picture is
g choices from the control
hing points on the grid with
Colour images appear instantly
een. Text can be added from
nce a frame is satisfactory,
on from the keyboard saves its
tion on a diskette. Creating a
ywhere from a few seconds to a
future modifications can be
. Compare this to a regular
ess ...

FINAL NEL STANDINGS									
Rank	Team	W	L	T	P	GF	GA	PTS	OT
1	San Jose	1	0	0	0	240	00	2	
2	San Jose	2	0	0	0	232	102	2	
3	San Jose	3	0	0	0	193	131	2	
4	San Jose	4	0	0	0	234	21	2	
5	San Jose	5	0	0	0	244	104	2	
6	San Jose	6	0	0	0	204	146	2	
7	San Jose	7	0	0	0	147	157	2	
8	San Jose	8	0	0	0	240	1	2	

1. Standings continued
2. The index

0 Previous index



AUTOMATIC PAGE CYCLING

A typical set of community information pages may number a couple of dozen in a given day. They might be cycled over the community channel every ten minutes or so. The cycling is done, most simply, by another device such as an Electronic Projection System. It has an electronic memory, into which the set of pages is loaded from the page creator. The device decodes the NAPLPS-encoded page, and sends out an RGB signal that represents the page.



The device can be instructed to cycle through the set of pages it has in its memory, at whatever pace is desired, just like a slide projector can be controlled for automatic cycling. But unlike a slide projector, the order of the pages can be varied, and pages can be repeated. You could, for example, present pages one through ten, then page one again, then pages eleven through twenty, then one and five, then twenty-one on, or whatever makes most sense.

The signal simply feeds into your head-end equipment, and goes out over your network. The operation is completely unattended.

UPDATE

New
slide
inserted

Cycling
electronic
slide tray
continues

Old
slide
out

THE MICRO ALTERNATIVE

Microcomputers offer another approach to page creation. If you plan to create hundreds of pages, the Norpak unit is worthwhile because of its ease of use, but a page-creation system based on a common microcomputer can be more than satisfactory for smaller volumes.

Several of these exist. Cablesare, of London, Ontario, sell a system called Picture Painter, used with an IBM PC microcomputer.

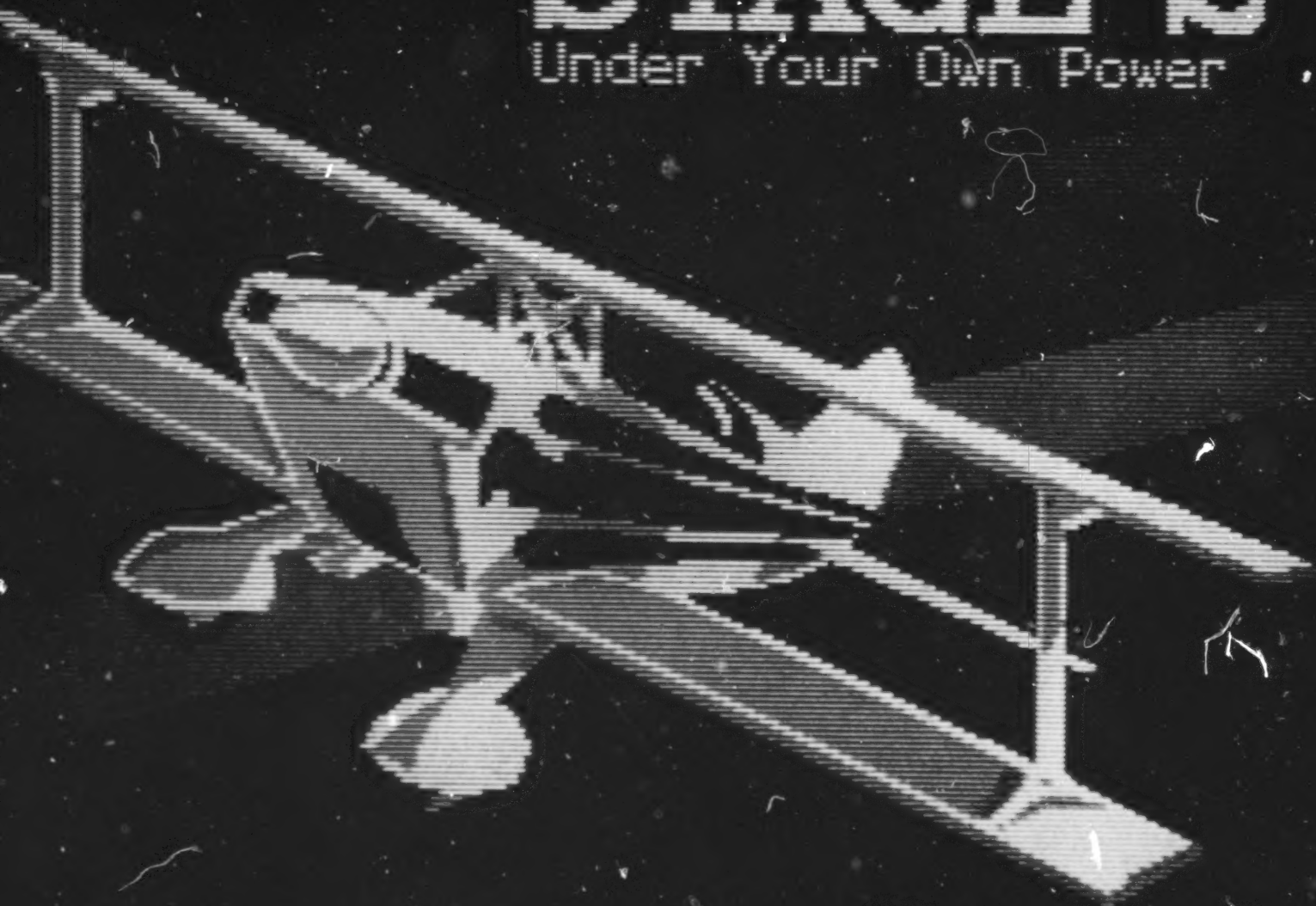
Microtaure, an Ottawa softwarehouse, can equip you with another page-creation system, also based on the IBM PC. They sell the software, not the hardware, but the hardware is standard: an IBM PC, with both a colour and a monochrome monitor, plus a gridded pad and pen.

And Tayson Information Technology of Calgary and Toronto will sell you software, again for your IBM PC, that lets it function as the cyler and "slide projector". It sends codes to a decoder, which in turn produces RF or RGB that you can feed into your head-end. NAPLPS decoders are available from companies such as Norpak, Electrohome and Microtel.

Some related equipment can produce full NTSC composite video output, so you can generate pictures that you can then edit and manipulate with any of your existing video manipulation equipment.

STAGE 2

Under Your Own Power



TAKING THE NEXT STEP

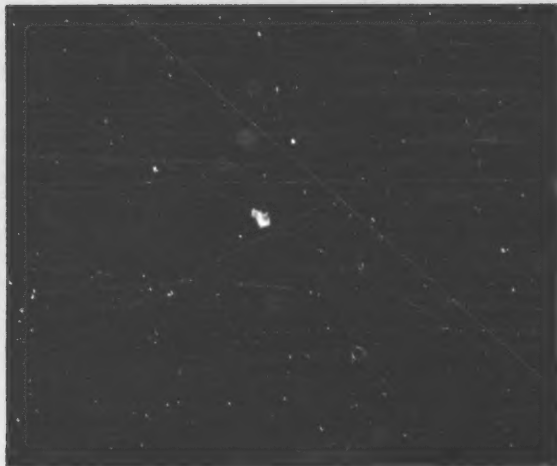


Simple, single-use pages for community information may be fine as a starter system, but before long you're going to want to get fancier — to use a channel for, say news and weather or program listings, and advertising. These services could benefit from graphics, but you're not about to create dozens of individual pages a day to illustrate your news feed.

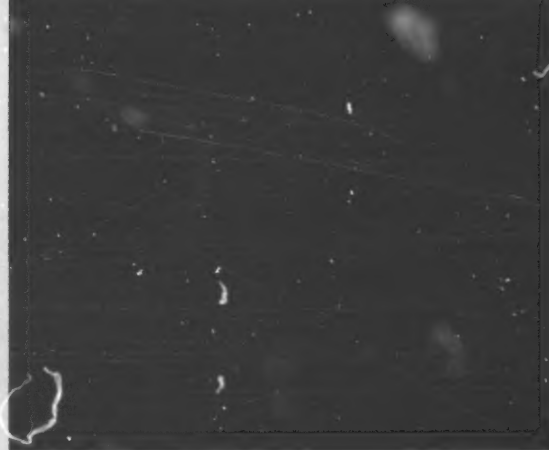
Wouldn't it be nice to be able to create a set of format pages, illustrating various common weather, sports, or news situations, or indicating such things as pay TV versus regular network broadcasts for your program listings, and then just change the text to present today's information.

Fortunately, the NAPLPS graphics standard makes this very easy to do. Text that's to appear in a NAPLPS page is encoded using the same standard codes that every computer in North America understands. And text is saved separately from the graphic information, even if it is to be superimposed on the graphics or mixed in with them.





What that means is that you can create a set of very attractive, standard graphics, or hire a page-creation company to do it for you. A number of Canadian companies provide this service. You can receive the pages in the form of a cassette tape or computer diskette, and store them as a library, in any microcomputer. Then, as the weather changes, or as your program listings change, or as you want to update news, you can drop the new text into the existing image, using the most basic of computer equipment. Canada's largest cable operator uses this approach to update its program listings channel. It uses an Apple II microcomputer. The Apple feeds through a Norpak Mark IV NAPLPS decoder, directly into the cable system head-end. The system was developed by Formic, a Montreal firm.



SHAKE HANDS, PARTNER

If you're not sure you want to get into the newsgathering and writing business, consider a partnership with your local newspaper.

In Brockville, Ontario, the local *Recorder and Times* newspaper works with Cablesare's Picture Painter system to create brief capsules of the day's important news stories. These are illustrated with standard graphics, a library of which is stored on the Picture Painter's diskettes. Another piece of Cablesare software times and cycles through the set of pages stored on the computer, and sends the encoded information out over a dedicated coaxial line to Brockville Cable's head-end. At the head-end, a Mark IV decoder turns the encoded pages into standard video signals which are broadcast over a dedicated cable channel. Of course, such an information channel could carry advertising, creating a new source of revenue.



EXPANDING THE PARTNERSHIP

On a grander scale, consider partnerships with even larger newsgathering organizations.

Across North America, companies are seeing the benefits of forming partnerships or other working arrangements to provide videotex service. In the U.S., AT&T has combined with Knight Ridder to offer Viewtron.

Canada's Broadcast News, the national radio and TV newswire service, is putting together a NAPLPS-based cable news service to replace its existing plain-text news crawl service. The new service is called Infovision.

A Broadcast News staffer, working at a terminal connected to the main editorial computer, creates short synopses of news stories. These are assigned a priority number, and a graphic which will illustrate the story is chosen from a standard library. (Story's about the Middle East? Illustrate it with a map of the area or a flag.)



These pieces of text, with codes indicating their priority and the chosen graphic, are run into a minicomputer dedicated to the Infovision service. Software in the Infovision computer fetches the chosen graphic from its library of graphics, puts it together with the text, and then checks the new item's priority.

The Infovision computer sends a continuous stream of encoded pages out, on a cycle that's normally half-an-hour. The computer is flexible. It can be programmed to repeat main news items every five or every fifteen minutes, if you want, or to always send the weather pages at five minutes before the hour.

Infovision started telecasting over Toronto's Rogers Cable in the fall of 1983, using a direct feed of Broadcast News to Rogers' head-end. Rogers required only a Norpak Mark IV decoder which directly fed the cable system. But Infovision sees itself ultimately as a cable news network. It proposes to send a set of national or regional pages regularly to timer-cycler equipment in communities around the country. Local newspapers or cable companies would select the pages they wanted to use locally, and add local information much like the current Brockville situation. A connection like the Brockville one would send the pages to the cable head-end, and from there to subscribers' homes.

THE NAPLPS ADVANTAGE

Why choose a NAPLPS-based system?

- It is inexpensive.
- It is available now.
- It is standardized throughout North America.
- Easy to operate.
- It can replace traditional character generators.
- Upwardly expandable to meet new needs.
- Fully flexible.

STAGE 3

State of the Art



TELETEXT AND BEYOND...

The next step up the ladder of complexity and cost is teletext: transmitting cycles of pages, but equipping your subscribers with their own decoders, allowing them to choose the pages they wish to see at any time. There's another brochure in this series that specifically describes Canadian experience and expertise in teletext.

A similar technology, from the cable operator's point of view, is incorporated in the Nabu Network, an unusual product of Nabu Manufacturing. Nabu uses teletext-like equipment to deliver not pages of information, but microcomputer software over a cable network. Nabu manufactures its own microcomputer, and the initial configuration of the Nabu Network delivers software for that computer. But the technology — particularly the "model" that connects the cable system to the computer — is adaptable to other microcomputers as well. Nabu is actively looking for cable operators interested in becoming partners in the Nabu Network concept. The concept is exciting, for it allows cable operators to benefit from the widespread use of home computers by delivering computer services.

But to one Canadian cable system, even teletext, even teledelivery of software is old hat.



CABLE AND THE COMPUTER REVOLUTION

Montreal's Vidéotron cable system is one of the largest in Canada. In partnership with a local engineering and manufacturing concern called Videoway, Vidéotron proposes, in 1984, to begin selling a dramatically enhanced cable service.

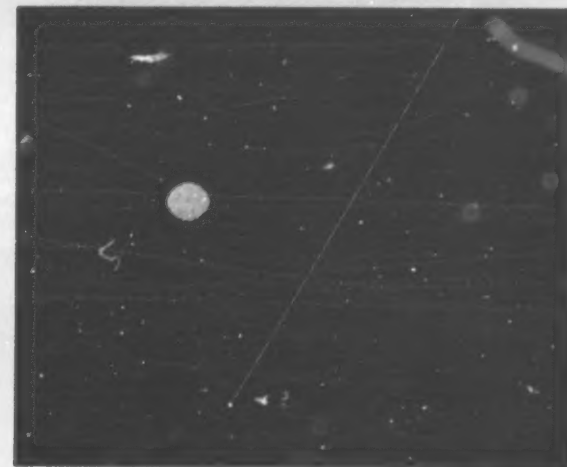
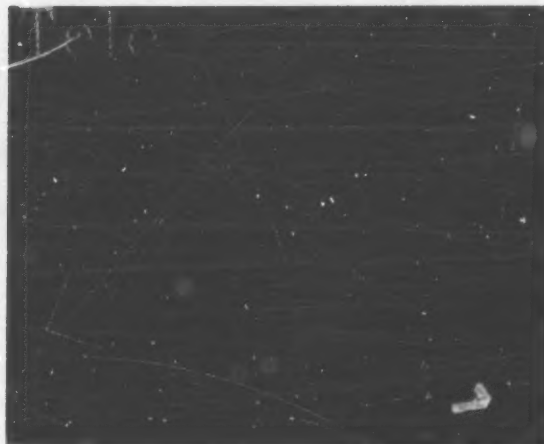
The service will depend on equipping households with Videoway's user interface device. The device looks much like other videotex or teletext units: a box that connects to the cable and to the TV, and a remote control that looks similar to a hand-held calculator. The box is in fact a microcomputer, and is individually addressable over the cable network.

The cable subscriber equipped with a user interface will receive an integrated and highly sophisticated set of services. The device replaces a cable converter, a pay TV decoder, and a teletext decoder. It's also capable of displaying the time and current channel on the TV screen.



It produces a composite video signal, as well as RGB, so it can drive virtually any colour TV or monitor. The cable system will load the interface device with its software every time it's turned on. Upgrades to the service can therefore be made at the head-end, and automatically and instantly delivered to every subscriber.

Vidéotron proposes to use one full channel of the cable system to broadcast special services, although the interface device will make use of the information in different ways. When the subscriber calls for the special service menu, it will be superimposed on the regular TV picture the subscriber is currently viewing. Vidéotron proposes a menu including news and information, subtitling and captioning, games, regular TV, and other services. Selection of news and information would shift the device into a standard, NAPLPS teletext decoder mode. Selection of games would cause the device to choose, from the information coming into it at all times, games software which would run on the interface unit itself. Delivery of software — games or other — to any microcomputer will also be possible using the Videoway technology.



ONE

RESULTS

WEEKEND RESULTS,
RUMOURS FROM THE PIT,
CABLE 10 & RACE CALENDAR



DON'T BE LEFT BEHIND



Your environment is changing rapidly, and you can see major players forming alliances and carving out their shares in the fast-changing entertainment/information industry. You've also learned from this booklet that you can get into the fast lane for some very modest dollar outlays.

Don't be left behind. Form a partnership today, with Canada's technology. Experienced companies which know your industry, and which have worked with cable companies like yours, are ready to work with you.

THE CANADIAN CONNECTION

For more information on the most advanced videotex systems, software and consulting services in th world, contact:

Brian Casey
Telidon Marketing (TIS)
External Affairs,
125 Sussex Drive
Ottawa, Ont. Canada K1A 0G2
(819) 994-4445
(819) 994-4076

This is one of a series of 10 brochures covering various aspects of this exciting new technology. Titles in the series include:

Videotex and the World of Business
Videotex and Banking
Videotex: New Tool for the Retailer
Videotex and the Personal Computer
Videotex and Cable TV
Videotex and Education
Videotex: New Tool for the Travel Industry
Videotex and Government
Videotex and Electronic Publishing
Videotex: A Thousand and One Applications

In addition, a Catalogue of Canadian Videotex Suppliers is also available. These may be obtained through the contact above.

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